PAGE®
INCORPORATED
Systems for PCB Repair Anywhere™

OPERATION AND MAINTENANCE INSTRUCTIONS FOR THE

Micro BenchTop™ Systems

MODELS

MBT-100 **MBT-200**
MBT-100E **MBT-200E**

MANUAL NO. 5050-0145

REV. G

GENERAL INFORMATION

Before using your PACE Micro Bench Top™ System(s), read the following instructions and procedures to become familiar with its proper operation and maintenance. Used and maintained properly, it will perform reliably for many years.

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PRODUCT APPLICATION:

The following sections of this manual will familiarize you with the parts and operation of the unit. This product is very versatile however, and may be used to satisfy a variety of application requirements. If you require assistance in the use of this product in your particular application, contact your local authorized PACE dealer or call PACE Applications Engineering at (301) 490-9860.

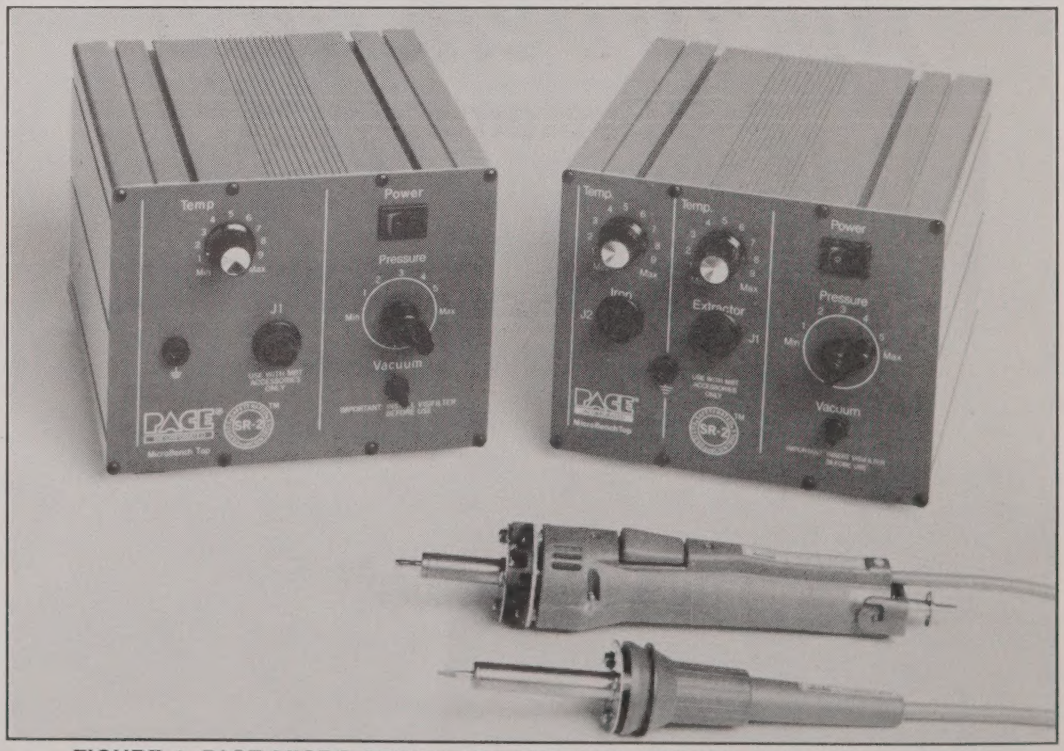


FIGURE 1. PACE MICRO BENCH TOP SYSTEMS (MBT-100, 100E, 200, and 200E)

INTRODUCTION:

There are four (4) versions of the PACE Micro Bench Top System. The MBT-100 and 100E utilize a vacuum controlled Extractor for desoldering on printed circuit boards (PCB) and other electronic assemblies. The MBT-200 and 200E utilize the same Extractor for desoldering and a Soldering Iron for soldering on printed circuit boards and other electronic assemblies. (See Figure 1).

SPECIFICATIONS:

MBT-100/100E

- **Power Requirements:**

  MBT-100 — Domestic version operates on either 100VAC, 50Hz, 100W/60Hz, 65W or 120VAC, 60 Hz., 68W.

  Model-100E — Export version operates on either 220VAC, 50Hz, 103W or 240VAC, 50Hz, 101W.

- **Vacuum and Air:**

  Quick rise vacuum pump ready for continuous operation. High flow rate achieved in less than 200 ms.

- **Physical Parameters:**

  MBT-100/100E — 5-5/16"H x 8-7/8"W x 7-1/4"D (13 cm H x 21 cm W x 11 cm D), 7 lbs. (3 kg)
  Extractor Handpiece — 8-3/8"L (20 cm L), 8 oz. (.22 kg)

- **Extractor Tip Temperature:**

  Minimum setting — 300°F (149°C)
  Maximum setting — 908°F (487°C)

MBT-200/200E

- **Power Requirements:**

  MBT-200 — Domestic version operates on either 100VAC, 50Hz, 115W/60Hz, 112W or 120VAC, 60Hz, 113W.

  Model MBT-200E — Export version operates on either 220VAC, 50Hz, 125W or 240VAC, 50Hz, 125W.

- **Vacuum and Air:**

  Quick rise vacuum pump ready for continuous operation. High flow rate achieved in less than 200 ms.

- **Physical Parameters:**

  MBT-200/200E — 5-5/16"H x 8-7/8"W x 7-1/4"D (13 cm H x 21 cm W x 11 cm D), 7 lbs. (3 kg)
  Extractor Handpiece — 8-3/8"L (20 cm L), 8 oz. (.22 kg)
  Solder Iron — 6" L (15cm L), 6 oz. (.15 kg)

- **Extractor Tip Temperature:**

  Minimum setting — 300°F (149°C)
  Maximum setting — 908°F (487°C)

- **Solder Iron Tip Temperature:**

  Minimum Setting — 300°F (149°C)
  Maximum Setting — 831°F (444°C)

PARTS IDENTIFICATION

TABLE 1. MICRO BENCH TOP SYSTEMS (MBT-100/100E) PARTS IDENTIFICATION

- VARIABLE TEMPERATURE CONTROL (J1)—provides variable temperature control for Extractor Handpiece Tip temperature.
- MAIN POWER SWITCH—controls input power within Micro Bench Top System.
- PRESSURE CONTROL—air control for hot-air jet mode.
- VACUUM FITTING—vacuum flow for solder removal.
- OUTPUT POWER RECEPTACLE (J1)—connects power from Micro Bench Top System to Extractor Handpiece.
- VISIFILTER™—collects and prevents foreign sustances from entering the Motor/Pump Assembly.
- EXTRACTOR HANDPIECE—tool used for desoldering, hot air pressure (blind side solder removal) and hot-air jet mode (removes solder connections and shrinks tubing) functions.
- VACUUM CONTROL SWITCH—Extractor Handpiece "ON/OFF" switch activates Motor/Pump.
- EXTRACTOR TIP—heats and extracts solder from components.
- HEATER ASSEMBLY—provides heat to Extractor Handpiece Tip.
- CUBBY HOLDER—conveniently stores Extractor Handpiece.
- EARTH GROUND TERMINAL—provides a ground between the Micro Bench Top System and PCB, thus preventing an electrical charge from damaging sensitive components.
- AC POWER RECEPTACLE—provides AC power to Micro Bench Top System from AC outlet through Power Cord.
- VOLTAGE SELECTOR SWITCH—selects proper voltage which corresponds with input line voltages. (**NOTE:** Switch must be placed in the proper position before plugging in Power Cord).
- POWER CORD—provides main power from AC outlet to AC Power Receptacle.
- LINE FUSE (F1)—provides overload protection for Micro Bench Top System.
- CIRCUIT BREAKER (CB1)—provides overload protection for Micro Bench Top System.

Figure 2 identifies the controls and indicators required for operation on the Micro Bench Top System(s) (MBT-100/100E) and the Extractor Handpiece. Refer to Table 1 and Figure 2 for location and identification of each part.

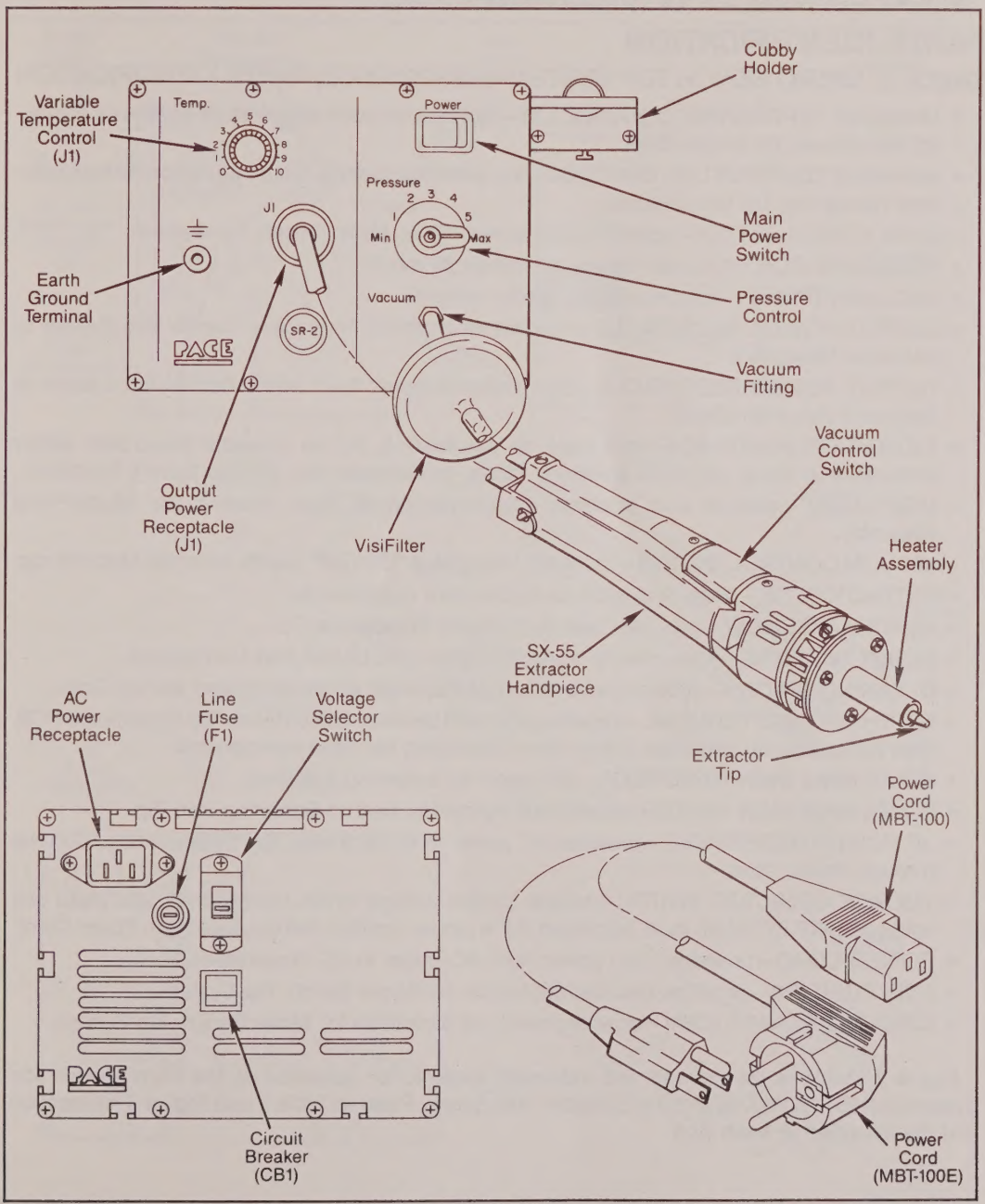


FIGURE 2. PACE MICRO BENCH TOP SYSTEMS (MBT-100/100E) PANEL IDENTIFICATION

PARTS IDENTIFICATION

TABLE 2. MICRO BENCH TOP SYSTEM (MBT-200/200E) PARTS IDENTIFICATION

- VARIABLE TEPERATURE CONTROL (J1)—provides variable temperature control for Extractor Handpiece Tip temperature,
- VARIABLE TEMPERATURE CONTROL (J2)—provides variable temperature control for Solder Iron Handpiece Tip temperature.
- MAIN POWER SWITCH—controls input power within Micro Bench Top System.
- PRESSURE CONTROL—air control for hot-air jet mode.
- VACUUM FITTING—vacuum flow for solder removal.
- OUTPUT POWER RECEPTACLE (J1)—connects power from Micro Bench Top System to Extractor Handpiece.
- OUTPUT POWER RECEPTACLE (J2)—connects power from Micro Bench Top System to Soldering Iron Handpiece.
- EXTRACTOR HANDPIECE—tool used for desoldering, hot air pressure (blind side solder removal) and hot-air jet mode (removes solder connections and shrinks tubing) functions.
- VISIFILTER™—collects and prevents foreign sustances from entering the Motor/Pump Assembly.
- VACUUM CONTROL SWITCH—Extractor Handpiece "ON/OFF" switch activates Motor/Pump.
- EXTRACTOR TIP—heats and extracts solder from components.
- HEATER ASSEMBLY—provides heat to Extractor Handpiece Tip.
- CUBBY HOLDERS—conveniently stores Extractor and Solder Iron Handpieces.
- CLEANING STATION—provides wire brush and sponge for cleaning and storing Tips.
- EARTH GROUND TERMINAL—provides a ground between Micro Bench Top System and PCB, thus preventing an electrical charge from damaging sensitive components.
- SOLDERING IRON HANDPIECE—tool used for soldering functions.
- SOLDERING IRON HEATER ASSEMBLY—provides heat to Soldering Iron Tip.
- AC POWER RECEPTACLE—provides AC power to Micro Bench Top System from AC outlet through Power Cord.
- VOLTAGE SELECTOR SWITCH—selects proper voltage which corresponds with input line voltages. (**NOTE:** Switch must be placed in the proper position before plugging in Power Cord).
- POWER CORD—provides main power from AC outlet to AC Power Receptacle.
- LINE FUSE (F1)—provides overload protection for Micro Bench Top System.
- CIRCUIT BREAKER (CB1)—provides overload protection for Micro Bench Top System.

Figure 3 identifies the controls and indicators required for operation on the Micro Bench Top System(s) (MBT-200/200E) and the Extractor Handpiece. Refer to Table 2 and Figure 3 for location and identification of each part.

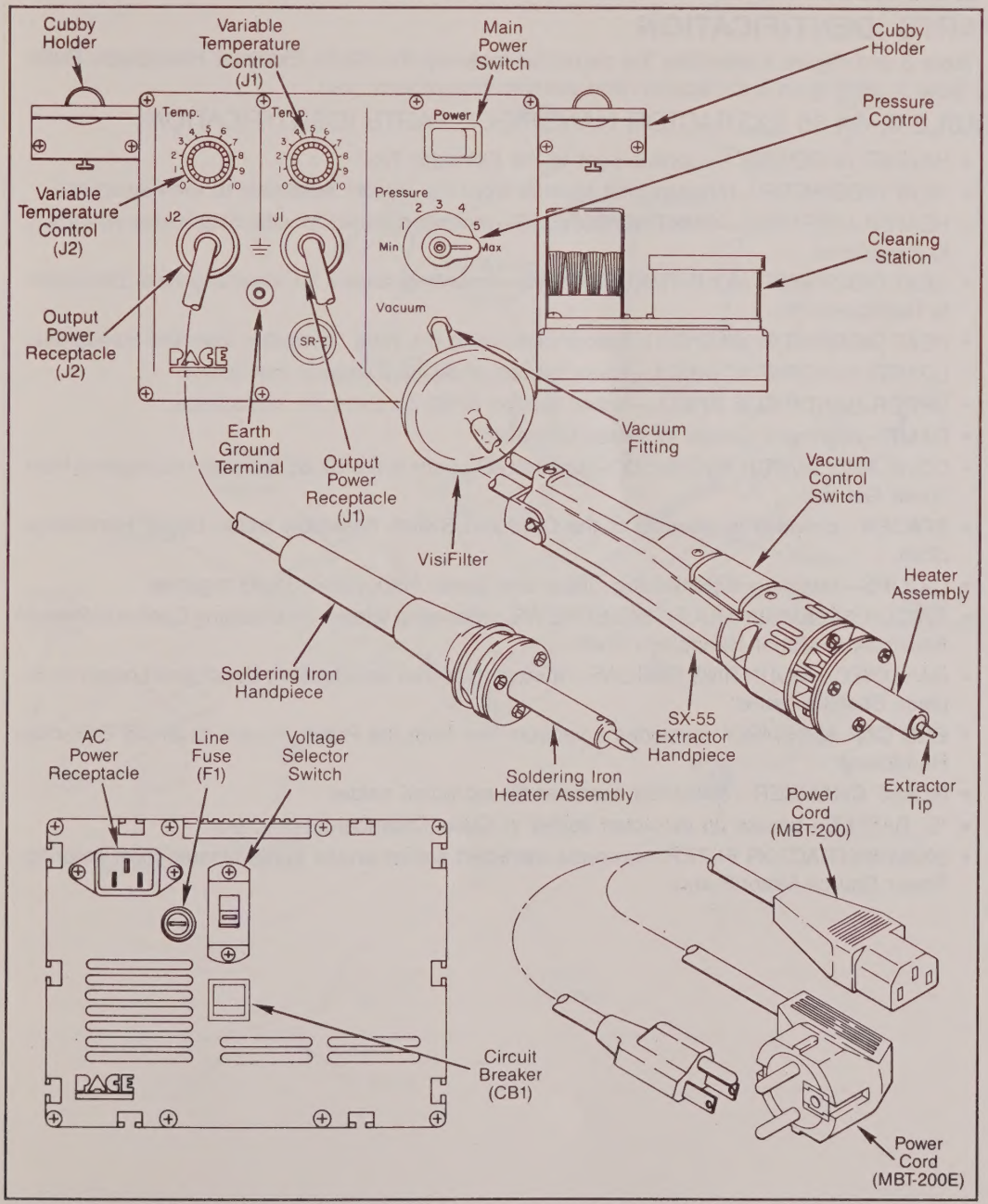


FIGURE 3. PACE MICRO BENCH TOP SYSTEMS (MBT-200/200E) PANEL IDENTIFICATION

GENERAL INFORMATION

PARTS IDENTIFICATION

Table 3 and Figure 4 identifies the parts that make-up the SX-55 Extractor Handpiece. Refer to Table 3 and Figure 4 for location and identification of each part.

TABLE 3. SX-55 EXTRACTOR HANDPIECE PARTS IDENTIFICATION

- HEATER ASSEMBLY—supplies heat to the Extractor Tip.
- HEAT DISSIPATOR—reduces heat transfer from the Heater Assembly to the Handpiece.
- HEATER ASSEMBLY MOUNTING SCREWS—mounting screws for attaching Heater Assembly to Handpiece.
- HEAT DISSIPATOR MOUNTING SCREWS—mounting screws for attaching Heat Dissipator to Handpiece.
- HEAT DISSIPATOR WASHER—spacer separating the Heat Dissipator from the Handpiece.
- LOWER HANDPIECE SHELL—lower section of SX-55 Extractor Handpiece.
- UPPER HANDPIECE SHELL—upper section of SX-55 Extractor Handpiece.
- RAMP—alignment guides for Glass Chamber.
- CORD AND SWITCH ASSEMBLY—supplies AC power to the SX-55 Extractor Handpiece from Power Source.
- SPACER—provides positioning of the Cord and Switch Assembly within Upper Handpiece Shell.
- C-CLIPS—retaining clips holding Upper and Lower Handpiece Shells together.
- SWITCH ASSEMBLY MOUNTING SCREWS—mounting screws for attaching Cord and Switch Assembly to Upper Handpiece Shell.
- HANDPIECE MOUNTING SCREWS—mounting screws for attaching Upper and Lower Handpiece Shells together.
- END CAP ASSEMBLY—provides a vacuum line from the Power Source to SX-55 Extractor Handpiece.
- GLASS CHAMBER—collection chamber for extracted solder.
- "S" BAFFLE—breaks up extracted solder in Glass Chamber.
- SX-55 EXTRACTOR FILTER—prevents extracted solder and/or contaminates from entering Power Source Motor/Pump.

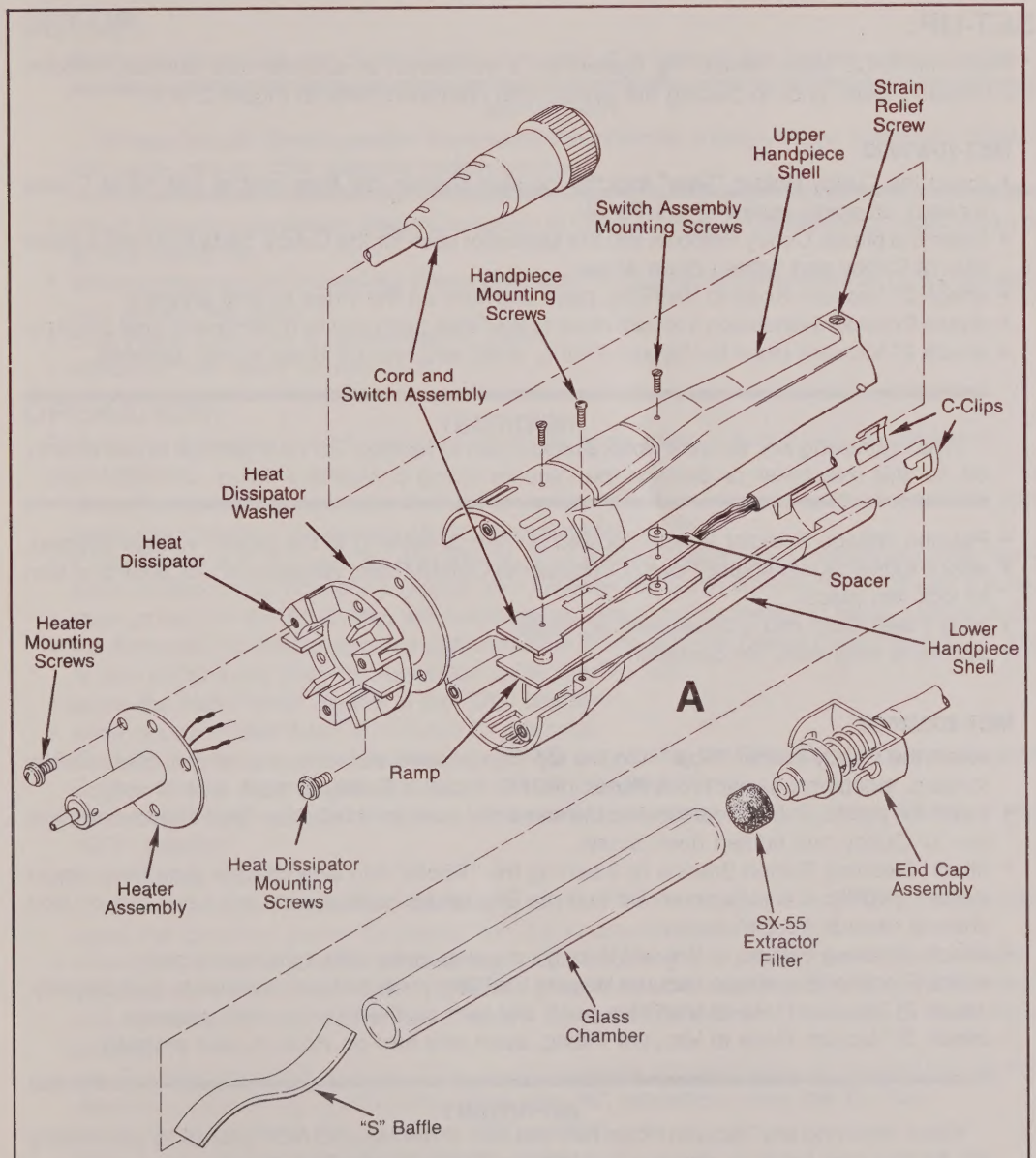


FIGURE 4. SX-55 EXTRACTOR HANDPIECE PARTS IDENTIFICATION

OPERATION

SET-UP:

Place the PACE Micro Bench Top System on a workbench or suitable work surface. Perform the following steps prior to placing the system into operation; refer to Figure 2 or 3:

MBT-100/100E

- insert the Cubby Holder "T-bar" into the top side chassis slot from rear of unit. Slide Cubby forward, stopping against Front Panel.
- insert the plastic Cubby Holdown into the same slot used for the Cubby. Slide Holdown against rear of Cubby and tighten down screw.
- attach 2" Vacuum Hose to VisiFilter, push and turn on the Hose to seat properly.
- attach Extractor Handpiece Vacuum Hose to VisiFilter, push and turn on Hose to seat properly.
- attach 2" Vacuum Hose to Vacuum Fitting, push and turn on Hose to seat properly.

IMPORTANT

When removing any Vacuum Hose, pull and turn to remove. *DO NOT* attempt to pull directly off, for this may break or damage the Vacuum Fitting or VisiFilter fitting.

- Position Voltage Selector Switch (located on rear of system) to the proper voltage position.
- attach Extractor Handpiece Power Connector to Output Power Receptacle (J1), push and turn to lock into place.
- plug Power Cord into a convenient AC outlet.
- system is now ready for operation.

MBT-200/200E

- insert the Cubby Holder "T-bar" into the top side chassis slot from rear of unit. Slide Cubby forward, stopping against Front Panel. (**NOTE:** Install a Cubby to each side of unit).
- insert the plastic Cubby Holdown into the same slot used for the Cubby. Slide Holdown against rear of Cubby and tighten down screw.
- attach Cleaning Station Bracket by inserting the "T-Bolts" into side chassis slots from rear of system. (**NOTE:** It is recommended that the Bracket be positioned in the lower slot on side chassis towards front of system).
- attach Cleaning Station to Bracket through aligning holes with screws and nuts.
- attach Extractor Handpiece Vacuum Hose to VisiFilter, push and turn on Hose to seat properly.
- attach 2" Vacuum Hose to VisiFilter, push and turn on the Hose to seat properly.
- attach 2" Vacuum Hose to Vacuum Fitting, push and turn on Hose to seat properly.

IMPORTANT

When removing any Vacuum Hose, pull and turn to remove. *DO NOT* attempt to pull directly off, for this may break or damage the Vacuum Fitting or VisiFilter fitting.

SET-UP:

- Position Voltage Selector Switch (located on rear of system) to the proper voltage position.

IMPORTANT

Voltage Selector Switch position must match the incoming supply voltage. (Example: 120VAC incoming voltage, 120V Selector Switch position).

- attach Extractor Handpiece Power Connector to Output Power Receptacle (J1), push and turn to lock into place.
- attach Soldering Iron Handpiece Power Connector to Output Power Receptacle (J2), push and turn to lock into place.
- plug Power Cord into a convenient AC outlet.
- system is now ready for operation.

OPERATION:

Perform the following steps to become operable, again using Figure 2 or 3 for reference:

MBT-100/100E

- place the Variable Temperature Control to position "7". This setting is used for reference and heats the Extractor Handpiece Tip to approximately 650°F.
- if the system is to be used for desoldering on a printed circuit board (containing static sensitive components), connect a ground wire between the Earth Ground Terminal and a common ground on the PCB. This will eliminate any electrical discharge to these components.
- the Extractor Tip should protrude approximately ⅜" beyond the Heater Assembly body. If Tip is protruding more than ⅜", reposition using the Tip Tool.
- place the Main Power Switch to the "ON" position.
- allow approximately four (4) minutes for warm-up.
- the system is now ready for desoldering. (**NOTE:** Depressing the Extractor Handpiece Vacuum Control Switch activates the vacuum mode of the Motor/Pump).
- after completion of desoldering, turn system off by returning the Main Power Switch to the "OFF" position.

MBT-200/200E

- place the Variable Temperature Controls to position "7". This setting is used for reference and heats the Extractor and/or Soldering Iron Tip to approximately 650°F.
- if the system is to be used for desoldering and/or soldering on a printed circuit board (containing static sensitive components), connect a ground wire between the Earth Ground Terminal and a common ground on the PCB. This will eliminate any electrical discharge to these components.
- the Extractor and Soldering Iron Tips should protrude approximately ⅜" beyond the Heater Assembly body. If Tip is protruding more than ⅜", reposition using the Tip Tool.
- place the Main Power Switch to the "ON" position.
- allow approximately four (4) minutes for warm-up.
- the system is now ready for desoldering and/or soldering. (**NOTE:** Depressing the Extractor Handpiece Vacuum Control Switch activates the vacuum mode of the Motor/Pump).
- after completion of desoldering and/or soldering, turn system off by returning the Main Power Switch to the "OFF" position.

OPERATION

USING THE EXTRACTOR HANDPIECE

- Grasp the Extractor Handpiece in the same manner as you would a pencil or pen.
- Position your index finger just to the front of the Vacuum Control Switch. With a rocking motion, your finger will make contact with the Switch . This will activate the "ON" and "OFF"position of the Switch (refer to Figure 5).
- For better control of the Extractor, your hand or arm should be resting on a flat work surface before you begin operation.

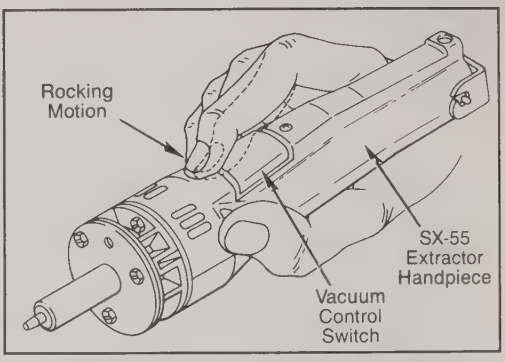
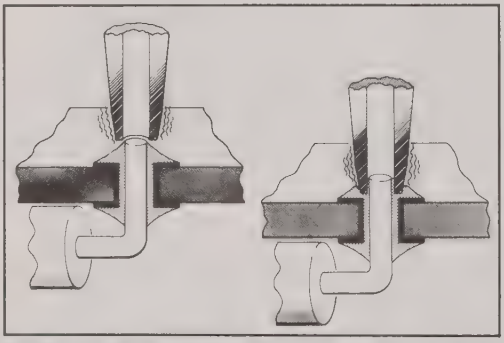


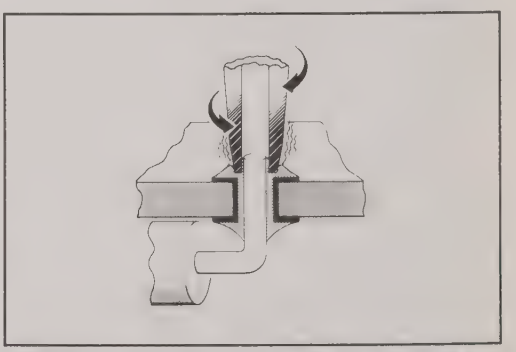
FIGURE 5. USING THE EXTRACTOR

VACUUM EXTRACTION

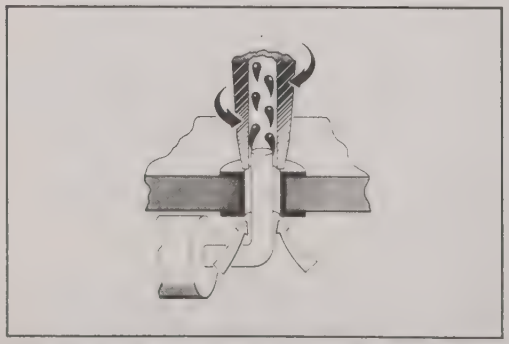
When performing a desoldering operation, the following steps should be followed for best results.



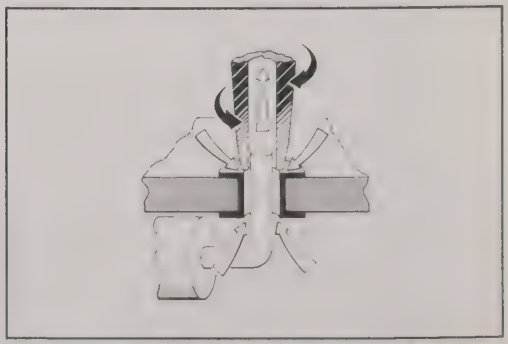
STEP 1. Position the Tip over the lead making contact with solder. As the solder melts, allow the Tip to gently rest on a film of solder between solder and Tip.



STEP 2. Move Tip with a stirring motion, dwelling until lead moves freely within the board hole. Free movement of the lead indicates complete solder melt.

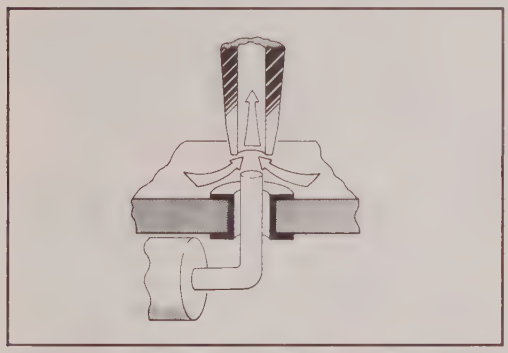


STEP 3. Apply vacuum and continue stirring action during vacuum application. To remove solder, maintain light contact. (**NOTE:** Pressure can damage or lift the pad).

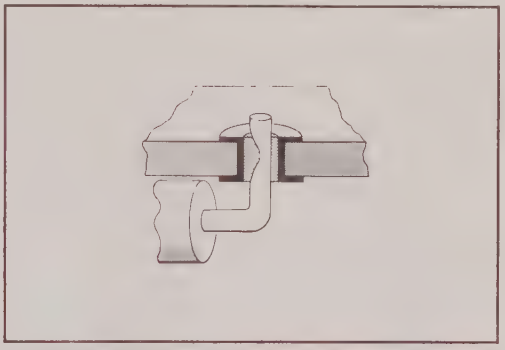


STEP 4. Continue stirring action and vacuum flow to cool joint area.

VACUUM EXTRACTION:

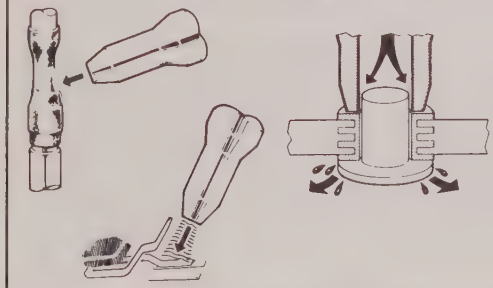


STEP 5. Continue vacuum flow one or two additional seconds after removing Tip from the board to assure complete transfer of the solder to Chamber.



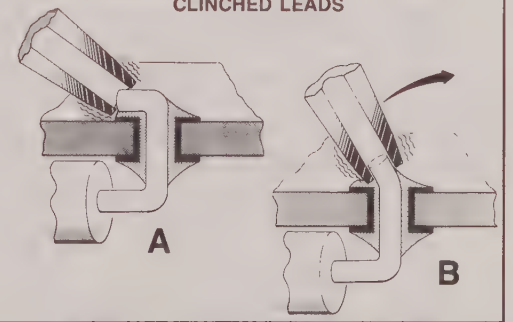
STEP 6. Check your work. If any solder remains in a plated-thru hole (PTH) after extraction, resolder and extract again. Allow cool down between resoldering and extraction.

HOT-AIR PRESSURES



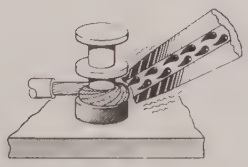
Hot-air pressure mode removes solder from blind side of thru-hole joints; hot-air jet mode melts planar component leads, solder connections and shrinks tubing.

CLINCHED LEADS



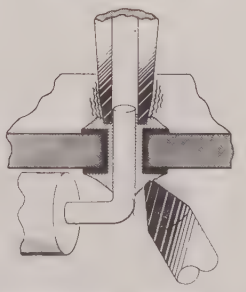
To unclinch leads, place Tip on lead until solder melts. Move Tip to end of lead and lift to straighten. (**WARNING:** Lift, *don't pry*!). Extract solder as described in Steps 3 through 6.

TERMINALS



For solder extraction on terminals, increase heat setting. Place Tip in contact with wire and solder. Watch for complete melt. Wiggle wire and apply vacuum to extract solder. Keep wire moving during cool down.

AUXILIARY HEATING



Solder extraction on multilayer boards may require application of a second heat source at the joint on the convenient side. Use a PACE Conductive Heating System or hot soldering iron tip for auxiliary heat.

MAINTENANCE:

Following are the maintenance procedures for your Micro Bench Top System(s):

CLEANING SOLDER COLLECTION CHAMBER—Solder and flux build-up in the Glass Chamber depends on usage. To clean the Glass Chamber, proceed with the following steps (see Figure 6):

- remove End Cap Assembly from rear of Extractor Handpiece (push and turn to unlock).
- remove Glass Chamber from End Cap Assembly.
- remove "S" Baffle and Sodr-X-Tractor Filter from Glass Chamber.
- clean Glass Chamber and "S" Baffle with large nylon bristle brush. Wet brush with solvent to remove heavy flux residue from Chamber. Apply mineral oil to brush and lightly coat inside of Chamber and "S" Baffle.
- replace Sodr-X-Tractor Filter when brown coloration becomes noticeable. This assures maximum air flow and keeps contaminates from reaching the vacuum source.
- reassemble "S" Baffle and Filter into Glass Chamber.

IMPORTANT

The "S" Baffle should have enough tension to maintain a constant position within the Chamber. Adjust Baffle by bending between your fingers. *DO NOT* attempt to bend the Baffle while inside the Chamber.

- seat baffle just in front of the End Cap Assembly, leaving enough room for Filter. The front end of the Baffle must be positioned at least 1" from the Front Surface Seal (see Figure 6).
- hold the Extractor Handpiece with the Vacuum Control Switch in the upright position.
- insert Glass Chamber into Extractor Handpiece. Slide along the bottom inside edge of the Extractor ramps. Ramps will align Chamber with the front seal and properly seat in place.
- inspect for properly seated Glass Chamber through Extractor Handpiece ports. (**NOTE:** Loss of vacuum will result if not properly seated).
- attach End Cap Assembly by pushing and turning to lock into place.

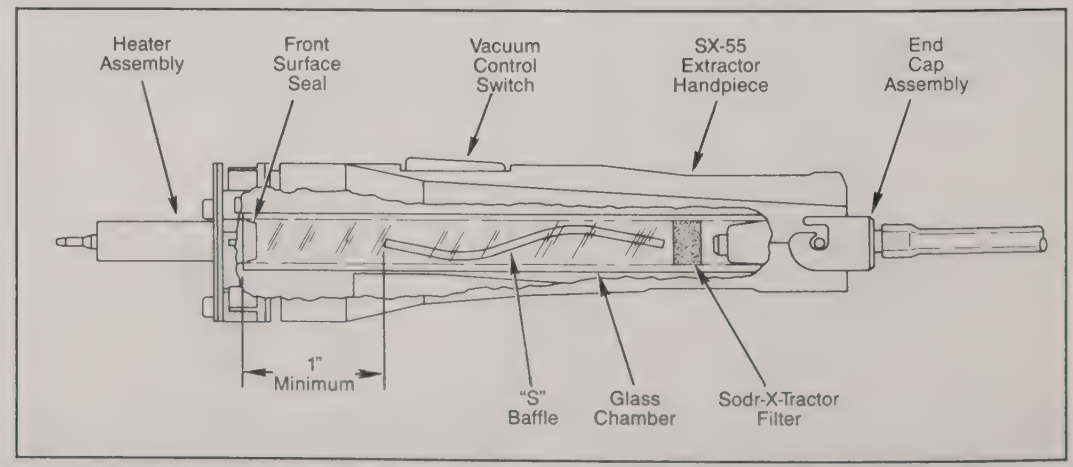


FIGURE 6. CUTAWAY OF EXTRACTOR HANDPIECE AND GLASS CHAMBER

VISIFILTER REPLACEMENT

Replace VisiFilter when it becomes clogged or discolored. To replace VisiFilter, proceed with the following steps:

- gently pull and turn the Extractor Vacuum Hose while holding VisiFilter.
- gently pull and turn the VisiFilter while holding the 2" Vacuum Hose.

IMPORTANT

When removing any Vacuum Hose, pull and turn to remove. *DO NOT* attempt to pull straight off for this may break or damage the Vacuum Fitting or VisiFilter fitting.

- discard old or discolored VisiFilter.
- replace new VisiFilter by gently turning and pushing 2" Vacuum Hose onto VisiFilter fitting.
- replace Extractor Vacuum Hose by gently turning and pushing onto VisiFilter fitting.

EXTRACTOR HANDPIECE HEATER REPLACEMENT

When replacement of the Extractor Heater becomes necessary (refer to Table 4. Corrective Maintenance), proceed with the following steps:

- disconnect Extractor Handpiece Power Cord and Vacuum Hose from Micro Bench Top System.
- remove End Cap Assembly and Glass Chamber (refer to Figure 6).
- remove three (3) screws on the Heater Assembly flange (refer to Figure 7), let Heater Assembly hang loose. (**NOTE:** *DO NOT* pull Heater Assembly from Handpiece at this time).
- using Tip Tool or needle nose pliers, disconnect the three (3) leads plugged into the Cord and Switch Assembly (refer to Figure 7). Remove defective heater Assembly from Handpiece.
- using Tip Tool or needle nose pliers, carefully plug the three (3) color coded leads of the new Heater Assembly into the color coded receptacles of the Vacuum Control Switch board.

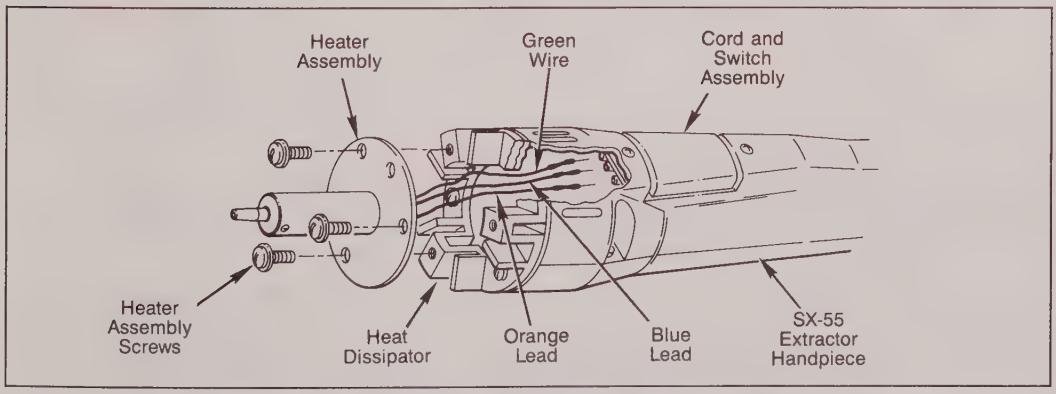


FIGURE 7. EXTRACTOR HANDPIECE HEATER ASSEMBLY REPLACEMENT

- attach Heater Assembly to Handpiece using the previously removed screws, (**NOTE:** Make certain that the three (3) leads are against the Extractor Handpiece sides and out of the way. Visually inspect through Extractor Handpiece ports).
- replace Glass Chamber, sliding along the bottom inside edge of the Extractor Handpiece ramps. Ramps will align the Glass Chamber with the front seal and properly seat in place.

- inspect Glass Chamber for proper seating through Handpiece ports. (**NOTE:** Loss of vacuum will result if not seated properly).
- attach End Cap Assembly by pushing and turning to lock into place.

SOLDERING IRON HANDPIECE HEATER REPLACEMENT

When replacement of Soldering Iron Heater becomes necessary (refer to Table 3. Corrective Maintenance), proceed with the following steps:

- disconnect Soldering Iron Handpiece Power Cord from Micro Bench Top System.
- remove three (3) screws from Heater flange and let Heater hang loose, refer to Figure 8. (**NOTE:** *DO NOT* pull Heater Assembly from Handpiece at this time).
- using Tip Tool or needle nose pliers, disconnect the three (3) leads from the Soldering Iron Power Cord connectors (refer to Figure 8). Remove Heater Assembly from Handpiece.
- using Tip Tool or needle nose pliers, carefully plug the three (3) color coded leads (orange, blue and green) into color coded receptacles of the Soldering Iron Power Cord.
- attach Heater Assembly using the previously removed screws.

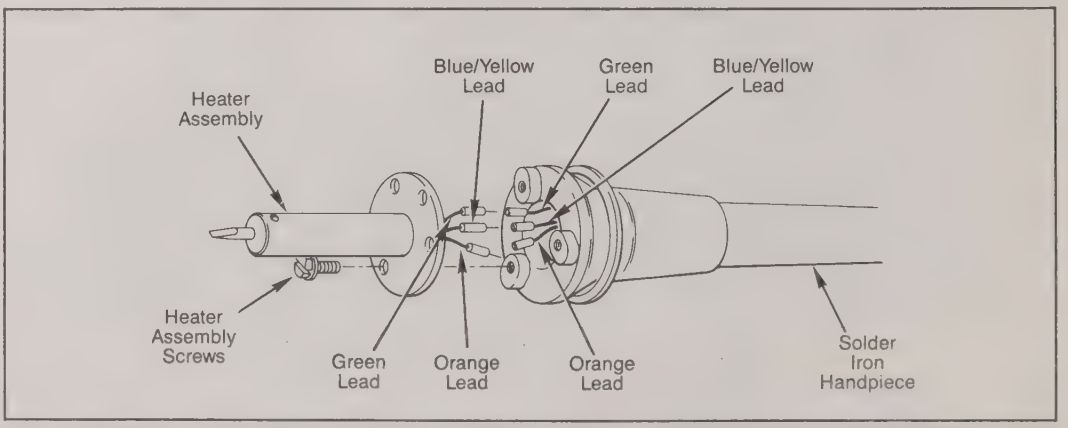


FIGURE 8. SOLDERING IRON HANDPIECE HEATER ASSEMBLY REPLACEMENT

EXTRACTOR/SOLDERING IRON TIP REPLACEMENT

When replacement of Tip becomes necessary (refer to Figure 9), proceed with the following steps:

- using Tip Tool, loosen the Heater Assembly set screw (¼ turn).
- remove and discard old Tip.
- using Tip Tool, insert new Tip into Heater Assembly. (**NOTE:** Tip should protrude approximately ⅜" beyond the Heater body).
- tighten set screw with Tip Tool. (**NOTE:** Be careful not to overtighten).

REPLACEMENT FOR JAMMED OR BROKEN EXTRACTOR TIPS

There may be an occassion when the Extractor Tip breaks off in the Heater Assembly, or due to oxide build-up, the Tip will be immovable. If this happens, perform the following steps:

- disconnect Extractor Handpiece Power Cord and Vacuum Hose from Micro Bench Top System.
- remove the End Cap Asembly and Glass Chamber (refer to Figure 6).
- using Tip Tool, loosen the Heater set screw (¼ turn). (Refer to Figure 8).

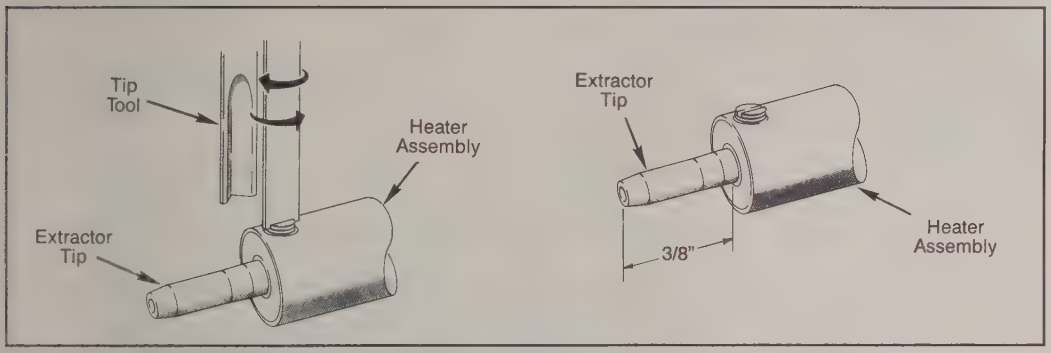


FIGURE 9. EXTRACTOR/SOLDERING IRON TIP REPLACEMENT

- while holding Extractor, insert a steel rod (slightly less than ⅛"diameter) into rear of Handpiece through the Heater Assembly to ram broken Tip from Heater Tube (refer to Figure 10). (**NOTE:** The Heater should be "HOT" for ease of removal).

CAUTION

Be careful not to touch the "HOT" Heater Assembly while removing the Tip. *Never* hold Extractor above eyelevel for inspection of clogged Tip.

- using Tip Tool, insert new Tip into Heater Assembly. (**NOTE:** Tip should protrude approximately ⅜" beyond the Heater body).
- tighten set screw with Tip Tool. (**NOTE:** Be careful not to overtighten).

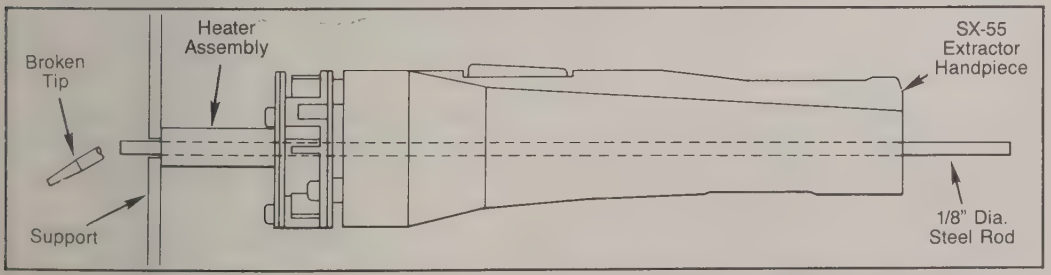


FIGURE 10. REPLACEMENT OF JAMMED OR BROKEN EXTRACTOR TIPS

FUSE REPLACEMENT–The Fuseholder is located on rear panel of the Micro bench Top System (refer to Figure 2 or 3). Replace Fuse in the following manner:

- unplug Power Cord from AC outlet and remove Fuseholder using a coin or screwdriver.
- remove Fuse from Fuseholder and replace with new Fuse.
- replace Fuseholder with a coin or screwdriver, plug Power Cord into AC outlet.

IMPORTANT

Make certain that Fuse replacement is of same size and rating. Improper replacement can cause damage to unit and create a safety hazard.

MAINTENANCE

CLEANING AND REMOVAL/REPLACEMENT

If a problem occurs with the SX-55 Extractor Handpiece, tighten the Handpiece screws. If the problem is still present, perform the following procedures for cleaning and/or removal/replacement of the Cord and Switch Assembly (refer to Figure 11).

- disconnect the SX-55 Extractor Handpiece Power Cord from Power Source, refer to Figure 2 or 3,
- remove the End Cap Assembly and Glass Chamber from SX-55 Extractor Handpiece, refer to Figure 6,
- remove the three (3) Heater Mounting Screws from SX-55 Extractor Handpiece. (**NOTE:** DO NOT pull Heater Assembly from the Handpiece at this time),
- using Tip Tool or Needle Nose Pliers, disconnect the three (3) leads plugged into the PC Board of the Cord and Switch Assembly,
- remove the Heater Assembly at this time,
- remove the three (3) Heat Dissipator Mounting Screws from Handpiece,
- set Heat Dissipator and Heat Dissipator Washer aside at this time,
- remove C-Clips from rear of Handpiece,
- remove two (2) Handpiece Mounting Screws from Handpiece,
- remove Lower Handpiece Shell,
- remove the two (2) Switch Assembly Mounting Screws,
- remove the Switch Assembly from the Upper Handpiece Shell. (**NOTE:** *DO NOT* discard or lose Spacer),
- loosen Strain Relief Screw,
- remove Cord and Switch Assembly by sliding to rear of Upper Handpiece Shell, lifting gently on the Cord,
- clean Switch on PC Board of Switch Assembly by brushing solvent between the contact points.
- reassemble the Handpiece in reverse order as removal. (**NOTE:** The three (3) Heater Assembly wires are color coded to match with colored markings over Heater Wire Recepatacles on PC Board of the Switch Assembly,
- plug SX-55 Extractor into Power Source and activate Switch. (**NOTE:** If Switch does not work, replace Cord and Switch Assembly).

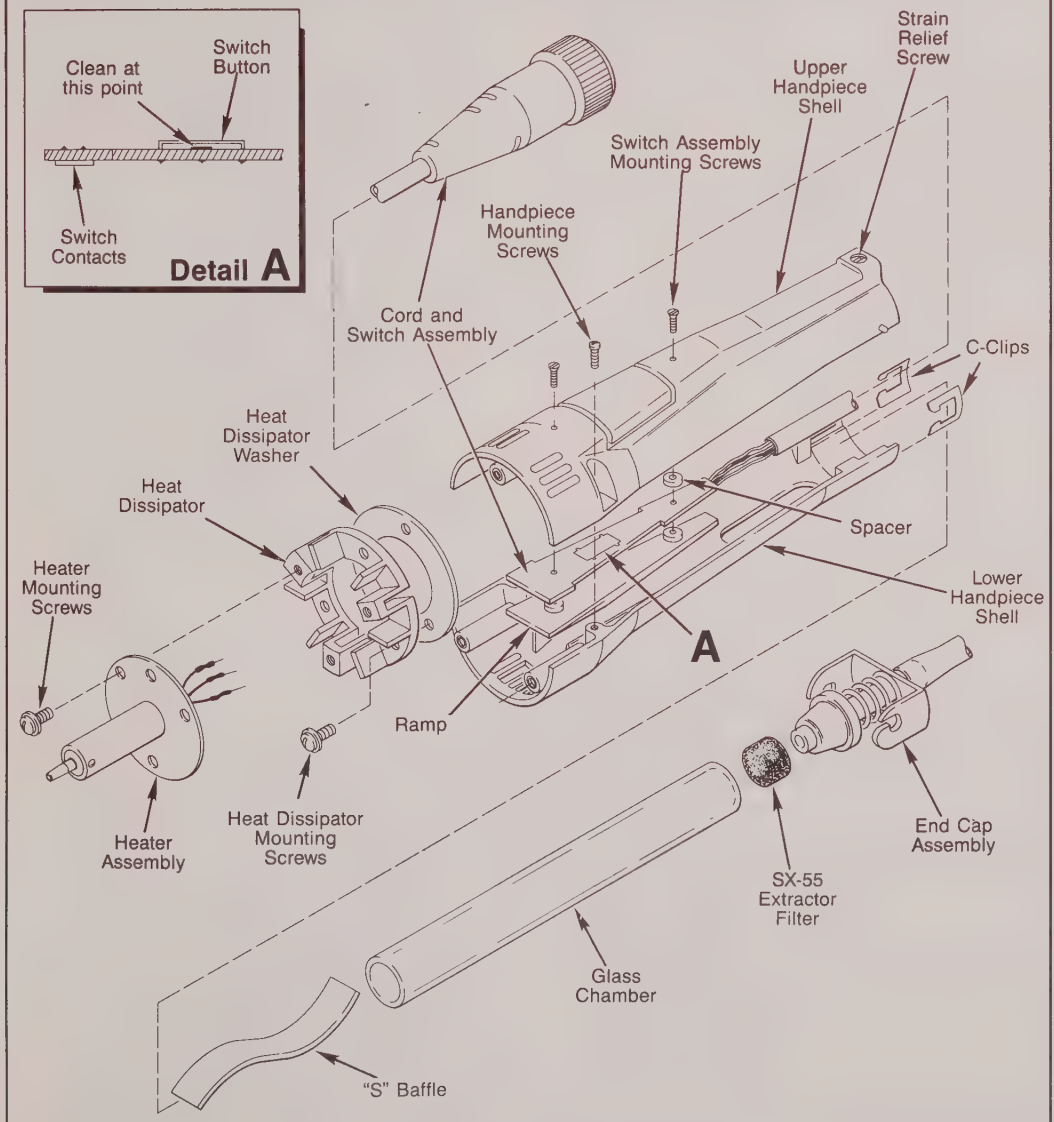


FIGURE 11. CLEANING AND REMOVAL/REPLACEMENT OF CORD AND SWITCH ASSEMBLY

MAINTENANCE

CORRECTIVE MAINTENANCE—When a problem in operation occurs refer to Table 4. Corrective Maintenance), select the symptom which applies and follow the steps given in the "Solution" column.

TABLE 4. CORRECTIVE MAINTENANCE

SYMPTOM	CAUSE	SOLUTION
INSUFFICIENT VACUUM— Reduction of vacuum will reduce the capability of the Extractor. It can also become potentially dangerous to the workpiece through damage. The operator notices that solder joints are not being completely removed on a consistent basis.	Restrictions or leaks	1. Check to assure that Glass Chamber is seated properly against the Front Seal. 2. Check for clogged Filter in Glass Chamber. a. Replace Filter if necessary. 3. Clean Tip Bore a. Replace Tip if necessary. 4. Clean Heater Chamber with wire brush. 5. Check "S" Baffle for correct positioning. a. Baffle should be seated just in front of the End Cap Assembly, leaving sufficient room for Filter. b. Baffle should maintain constant position (no movement) within Chamber. Remove Baffle and bend between fingers. (**NOTE:** *DO NOT* attempt to bend Baffle while in the Chamber). 6. Check for damaged or kinked Vacuum Hose. a. Replace Vacuum Hose if necessary. 7. Check for clogged or discolored VisiFilter. a. Replace VisiFilter if necessary. 8. Contact your local PACE representative.
No vacuum; heating function normal; motor operates.	Clogged Glass Chamber	Clean Glass Chamber and replace Filter.
	Clogged Tip	Replace Tip
	Broken VisiFilter	Replace VisiFilter
	Improper VisiFilter or Vacuum Hose connections	Make certain all connections are fitted properly.
	Hole or kink in Vacuum Hose	Replace or unkink Vacuum Hose.
No vacuum; heating function normal. Motor does not operate.	Handpiece Shell screws loose	Tighten screws
	Defective Cord and Switch Assemby	Clean Switch Assembly.
		Replace Assembly.
Heater does not heat; vacuum functions normal.	Heat Control improperly adjusted	Adjust Variable Temperature Control on Micro Bench Top System
	Defective Heater	Replace Heater Assembly.
	Defective Control Board	Contact your local PACE representative.
Indicator light does not illuminate; no vacuum; no heating.	Blown Fuse	Replace Fuse.
	Improperly installed or broken Power Cord	Install Power Cord properly. Replace Power Cord if damaged or broken.
	Defective Power Supply or Control Circuit	Contact your local PACE representative.
No heat to Soldering Iron	Heat Control improperly adjusted	Adjust Variable Temperature Control on Micro Bench Top System
	Defective Heater Assembly	Replace Heater Assembly
	Defective Control Board	Contact your local PACE representative

REPLACEMENT PARTS

When ordering replacement parts for your Micro Bench Top System(s), use Table 6 and Figure 13 (MBT-100/MBT-100E) and Table 7 and Figure 14 (MBT-200/MBT-200E) for locating the required part. Locate the item number in the illustration, then refer to the corresponding Table for the item number, description and PACE part number.

Refer to Table 8 and Figure 15 (SX-55 Extractor Assembly) and/or Table 5 and Figure 12 (Micro Soldering Iron Assembly) for replacement parts of those items.

Table 9 and Figure 16 identifies the Accessory Items.

TABLE 5. REPLACEMENT PARTS FOR MICRO SOLDERING IRON ASSEMBLY
(Refer to Figure 12)

ITEM NO.	DESCRIPTION	PACE PART NO.
1	Micro Soldering Iron Assembly	6025-0004
2	Soldering Iron Tip, 1/8" Chisel	1121-0130
	Soldering Iron Tip, 1/16" Chisel	1121-0131
	Needle Tip	1121-0132
3	Heater Assembly	6010-0056
4	Set Screw	1348-0287
5	Screw, #4-40x¼" (Qty. 3)	1405-0395

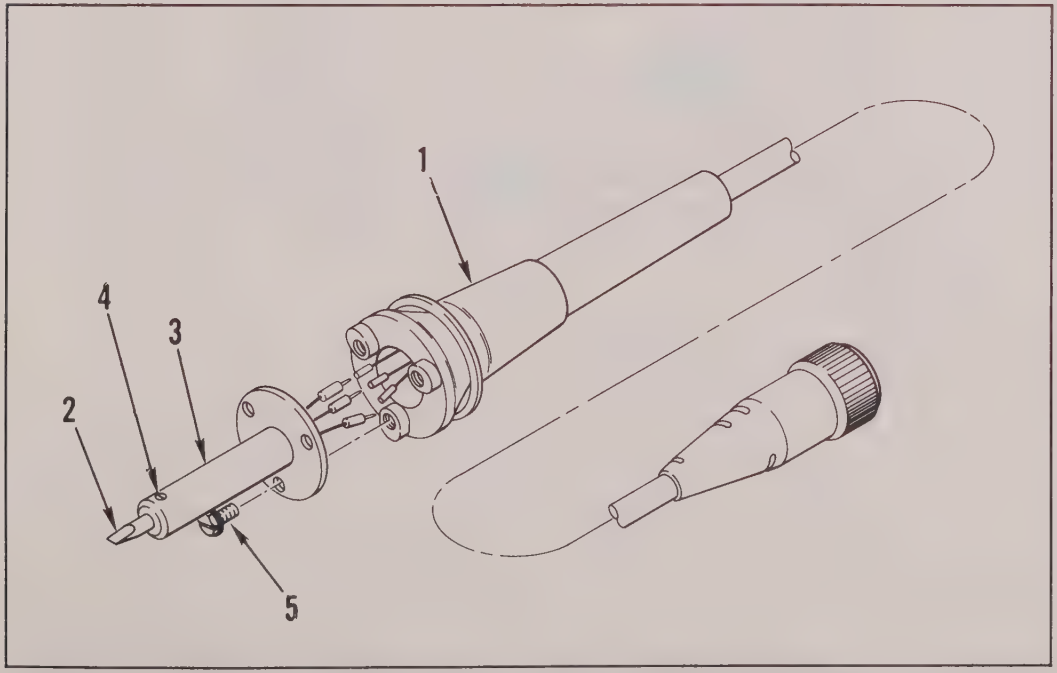


FIGURE 12. REPLACEMENT PARTS FOR MICRO SOLDERING IRON HANDPIECE ASSEMBLY

REPLACEMENT PARTS

TABLE 6. REPLACEMENT PARTS FOR MBT-100/MBT-100E SYSTEM(S)
(Refer to Figure 13)

ITEM NO.	DESCRIPTION	PACE PART NO.	
		MBT-100	MBT-100E
	Micro Bench Top System	8007-0093	8007-0100
1	Single Holder	6019-0019-01	6019-0019-01
2	Micro Bench Top Power Source	7008-0153	7008-0155
3	VisiFilter	1309-0020	1309-0020
4	Power Cord	1332-0094	1332-0093
5	Vacuum Hose, 2" Long	1342-0001-01	1342-0001-01
6	Vacuum Hose, 10" Long (Qty. 2)	1342-0012-03	1342-0012-03
7	Main Power Switch	1157-0052	1157-0052
8	Variable Temperature Control	1179-0133	1179-0133
9	Vacuum Valve Stem	1263-0021	1263-0021
10	Pressure Control Valve Assembly	1285-0033	1285-0033
11	Voltage Selector Switch	1157-0041	1157-0041
12	Fuse, 1.6A (MBT-100), 0.8A (MBT-100E)	1159-0235	1159-0109
13	Fuse Holder	1161-0008	1161-0008
14	Transformer	1192-0050	1192-0051
15	AC Power Receptacle	1207-0118	1207-0118
16	Motor Pump Assembly	6008-0101	6008-0101
17	Printed Circuit Board Assembly	6020-0020	6020-0020
18	Circuit Breaker (CB1)	1159-0240	1159-0240
19	SX-55 Extractor Assy. (refer to Table 8, Fig. 15)	6010-0054	6010-0054
20	Accessory Kit (refer to Table 9, Fig. 16)	7900-0002	7900-0005
—	Operation/Maintenance Manual	5050-0145	5050-0145

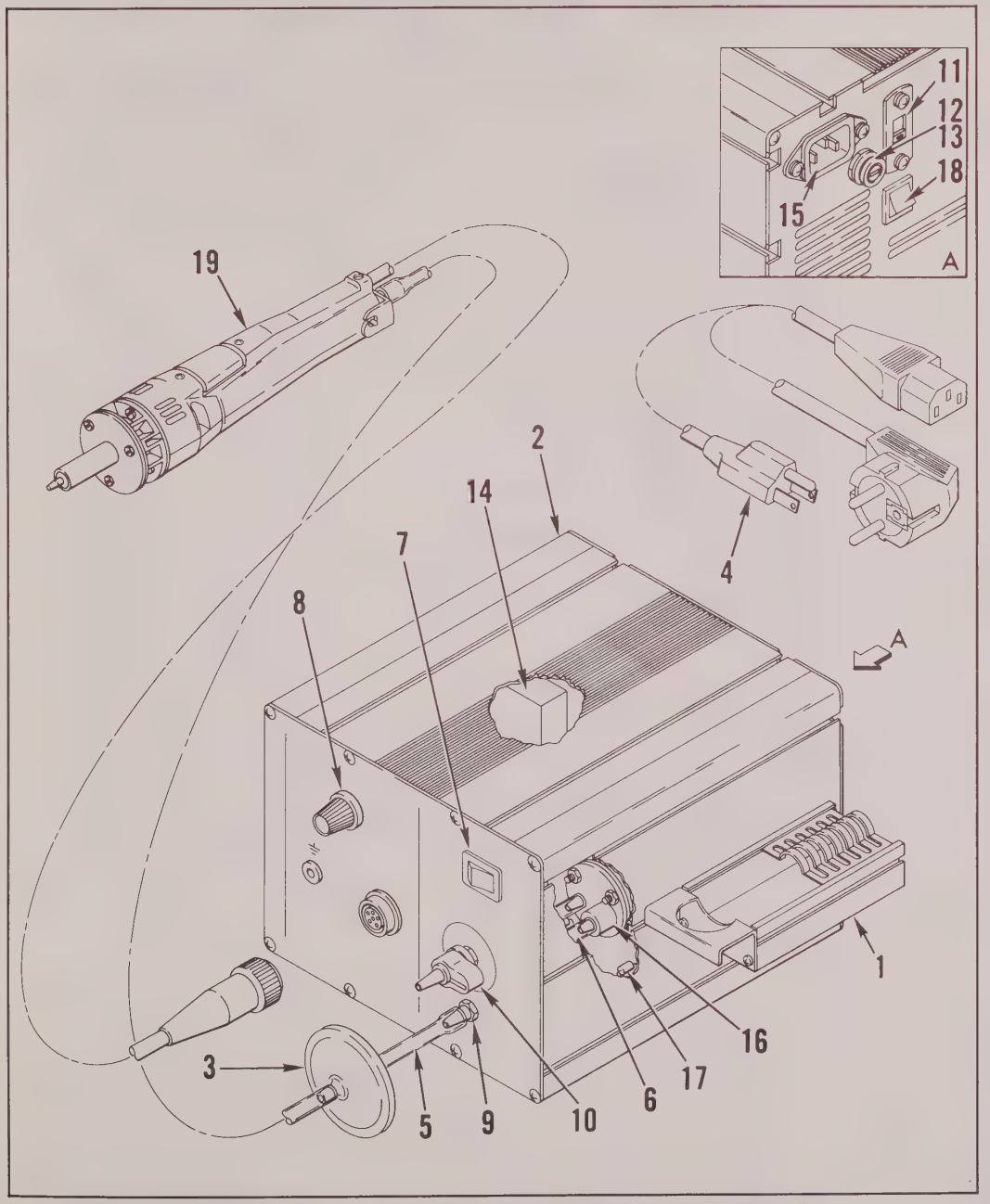


FIGURE 13. REPLACEMENT PARTS FOR MBT-100/MBT-100E

REPLACEMENT PARTS

TABLE 7. REPLACEMENT PARTS FOR MBT-200/MBT-200E SYSTEM(S)

(Refer to Figure 14)

ITEM NO.	DESCRIPTION	PACE PART NO.	
		MBT-200	MBT-200E
	Micro Bench Top System	8007-0094	8007-0099
1	Cubby Holder (Left Side)	6019-0019-01	6019-0019-01
	Cubby Holder (Right Side)	6019-0019-02	6091-0019-02
2	Cleaning Station	6021-0004	6021-0004
	Wire Brush	1127-0012	1127-0012
	Sponge	4021-0001	4021-0001
3	Micro Bench Top Power Source	7008-0154	7008-0156
4	VisiFilter	1309-0020	1309-0020
5	Power Cord	1332-0094	1332-0093
6	Vacuum Hose, 2" Long	1342-0001-01	1342-0001-01
7	Vacuum Hose, 10" Long (Qty. 2)	1342-0012-03	1342-0012-03
8	Main Power Switch	1157-0052	1157-0052
9	Variable Temperature Control (Qty. 2)	1179-0133	1179-0133
10	Vacuum Valve Stem	1263-0021	1263-0021
11	Pressure Control Valve Assembly	1285-0033	1285-0033
12	Voltage Selector Switch	1157-0041	1157-0041
13	Fuse, 1.6A (MBT-200), 1.0A (MBT-200E)	1159-0235	1159-0110
14	Fuse Holder	1161-0008	1161-0008
15	Transformer	1192-0050	1192-0051
16	AC Power Receptacle	1207-0118	1207-0118
17	Motor Pump Assembly	6008-0101	6008-0101
18	Circuit Breaker (CB1), 3A	1159-0240	1159-0240
19	Printed Circuit Board Assembly	6020-0021	6020-0021
20	SX-55 Extractor Assy. (refer to Table 8, Fig. 15)	6010-0054	6010-0054
21	Micro Soldering Iron Assy (refer to Table 5, Fig. 12)	6025-0004	6025-0004
22	Accessory Kit (refer to Table 9, Fig. 16)	7900-0003	7900-0004
—	Operation/Maintenance Manual	5050-0145	5050-0145

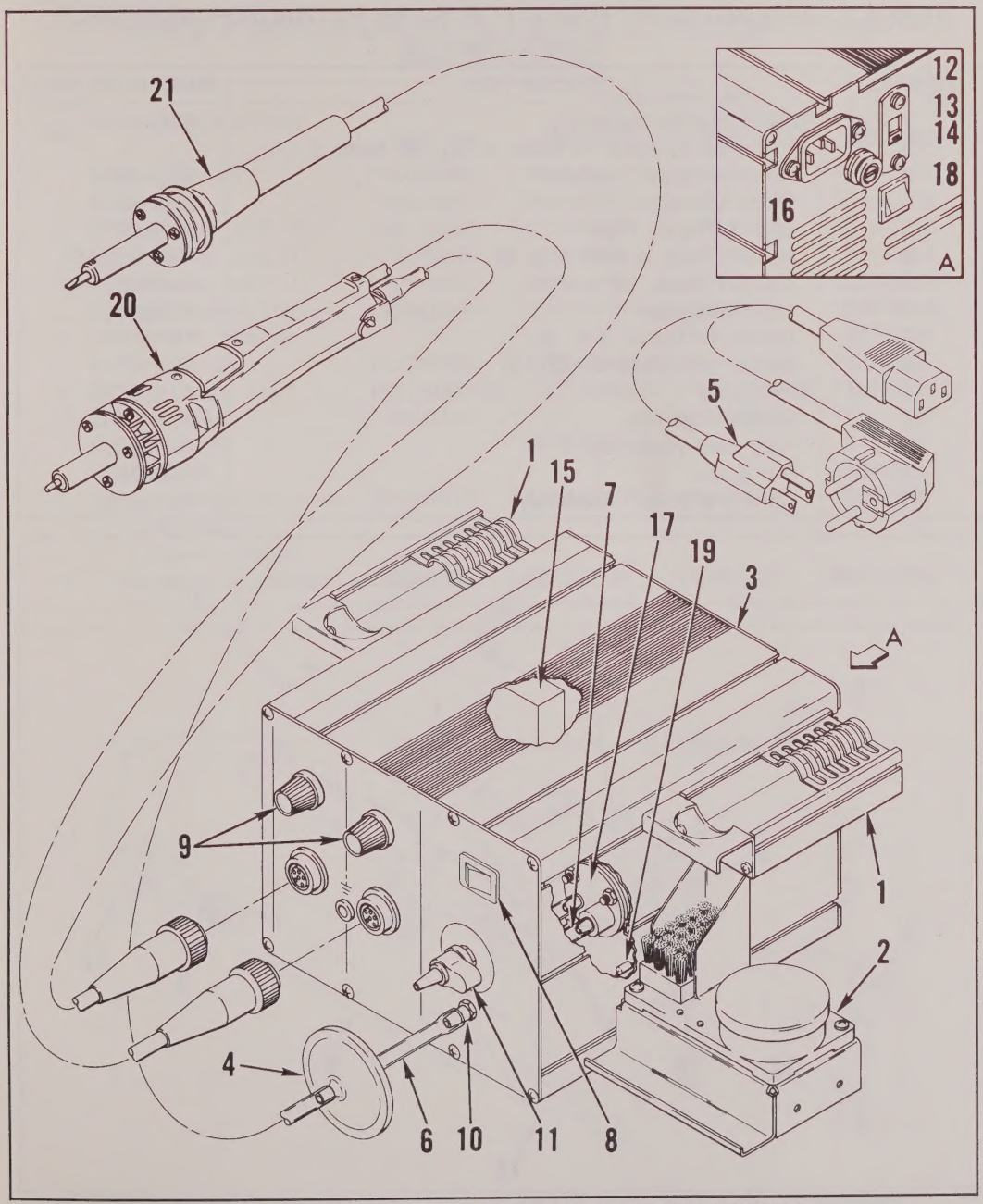


FIGURE 14. REPLACEMENT PARTS FOR MBT-200/MBT-200E

TABLE 8. REPLACEMENT PARTS FOR SX-55 EXTRACTOR ASSEMBLY
(Refer to Figure 15)

ITEM NO.	DESCRIPTION	PACE PART NO.
1	SX-55 Extractor Assembly	6010-0054
2	Extractor Tip (refer to Table 9, Fig. 16, Items 2—4)	—
3	Heat Dissipator Washer	1213-0034
4	Glass Chamber	1265-0009
5	Sodr-X-Tractor Filter	1309-0018
6	Holder, Tube to Wire (Qty. 6)	1321-0085-01
7	Vacuum Hose, 66" Length	1342-0001-14
8	Heat Dissipator	1360-0005
9	Screw, #4-40x¼" (Qty. 3)	1405-0395
10	Screw, #40-40x5/16" (Qty. 3)	1405-0534
11	"S" Baffle	4010-0033
12	Heater Assemby	6010-0055
13	Rear Seal Assembly	4010-0082
14	Set Screw	1348-0287
15	Cord and Switch Assembly	4010-0081

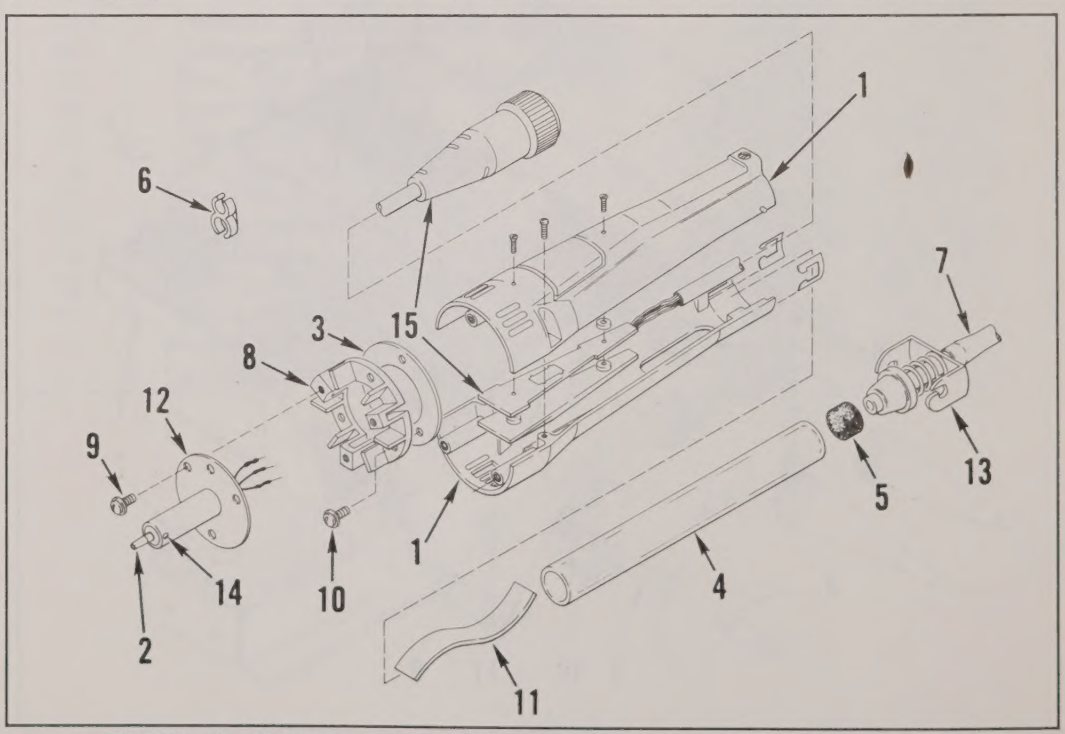


FIGURE 12. REPLACEMENT PARTS FOR SX-55 EXTRACTOR ASSEMBLY

TABLE 9. REPLACEMENT PARTS FOR ACCESSORY KIT(S)
(Refer to Figure 16)

ITEM NO.	DESCRIPTION	PACE PART NO.			
		MBT-100	MBT-100E	MBT-200	MBT-200E
	Accessory Kit	7900-0002	7900-0005	7900-0003	7900-0004
1	Tip Tool	1100-0206	1100-0206	1100-0206	1100-0206
2	Micro Tip, .025 I.D.	1121-0253	1121-0253	1121-0253	1121-0253
3	Micro Tip, .036 I.D.	1121-0254	1121-0254	1121-0254	1121-0254
4	Micro Tip, .061 I.D.	1121-0255	1121-0255	1121-0255	1121-0255
5	Filter, Sodr-X-Tractor	1309-0018	1309-0018	1309-0018	1309-0018
6	Tip, 1/16″ Chisel			1121-0131	1121-0131
7	Nylon Brush	1127-0002	1127-0002	1127-0002	1127-0002
8	Wire Brush, 3½″	1127-0006-02	1127-0006-02	1127-0006-02	1127-0006-02
9	Fuse, 1.6A	1159-0235		1159-0235	
	Fuse, 0.8A		1159-0109		
	Fuse, 1A				1159-0110
10	Spares Kit (Cubby Holder) (2 Screws) (2 Plastic Stops)	6550-0010	6550-0010	6550-0010	6550-0010
11	Handle Kit (Optional)	6993-0094	6993-0094	6993-0094	6993-0094

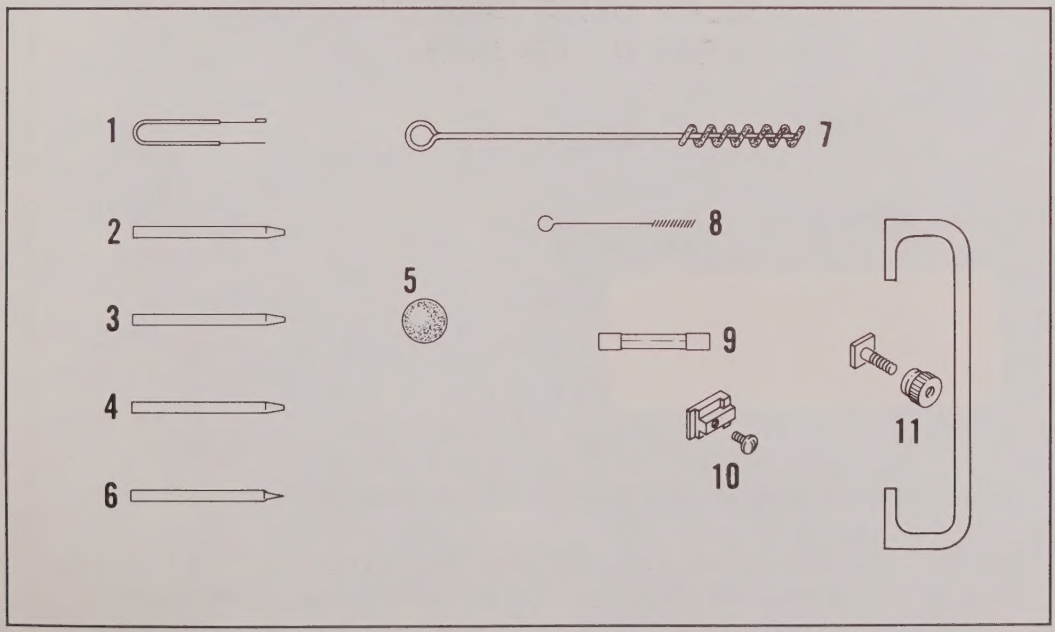


FIGURE 16. REPLACEMENT PARTS FOR ACCESSORY KIT(S)

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LAUREL, MARYLAND 20707 USA
(301) 490-9860
TELEX 198296 PACE UT
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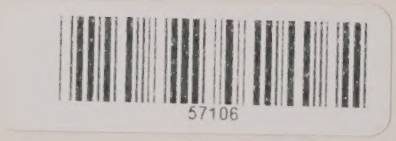

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